

REMARKS

Claims 18, 20, 21, and 24-38 are pending in the application.

Formal amendments have been made. No new matter is entered.

Rejection Under 35 USC §103(a)

Claims 18, 20-21, 24-38 were rejected under 35 U.S.C. 103(a) as being unpatentable over Westre et al. (U.S. 6,114,050) in view of Anast (U.S. 6,648,273 B2).

This rejection is respectfully traversed.

The Anast reference is newly applied.

Anast discloses a laminate 18 for an aircraft fuselage, consisting of aluminium foil layers 40 and plastic layers 41 (column 5, lines 36-37 and figure 6).

On the inner side of the laminate 18, a so-called "doubler" 20 has been applied, see figures 2A and 2B. The object of said doubler 20 is to obtain additional strength, see column for, line 17-20.

The advantages of this construction are described in column 6, from line 8 onwards.

Note that there that the relatively thick and hard aluminium doubler 20 is able to reduce distresses around the rivets 15. Furthermore, it is of importance to note that in the same column, from line 16 onwards, it is submitted that as a result of the application of such an additional layer, the

laminate 18 may have a constant thickness, even in areas with openings such as the window opening 19. This represents an interesting difference in comparison to the invention, the latter one being specifically aimed at not maintaining a constant thickness of the laminate. Instead, the invention aims at locally reducing excess of the laminate. Therefore, one of skill would not combine the teachings of Anast and Westre.

In this connection, Applicant submits the following reasoning concerning inventive difference between the claim invention and these publications.

Starting from Westre:

Westre does not disclose a laminate with internal metal layers having an opening. Westre does not give any hint that such a structure would be required.

The skilled person, when reading Westre (figure 5 and column 13) would not consult Anast for any redesign of internal laminate layers, since Anast teaches to use an external doubler tailored to local loading conditions combined with a laminate skin having constant thickness.

Contrary to this, Westre teaches interleaving additional titanium foils at joints, resulting in a laminate having non-uniform thickness, and teaches away from Anast.

Therefore a combination of the teachings of Anast and Westre is not suggested.

Moreover, such a combination would result in a skin assembly comprising a laminate having non-uniform thickness bonded to a lightweight doubler panel, the doubler panel being bonded to the external side of one of the external metal layers of the laminate. Such a skin assembly would not even come close to the present invention.

Nor would Anast be modified in view of Westre.

Starting from Anast:

Anast discloses a skin assembly comprising a laminate skin bonded to an external doubler panel having cutouts. The doubler panel is bonded to the external side of one of the external metal layers of the laminate, so that the doubler will be at the inner side of the aircraft after the skin assembly is fixed onto an aircraft frame structure.

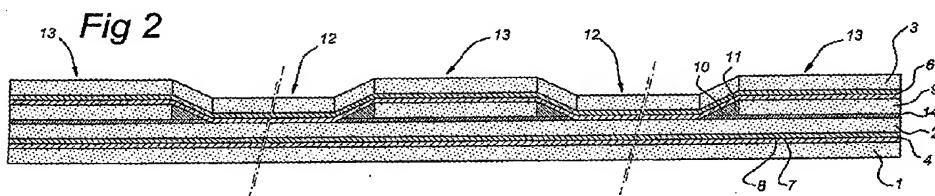
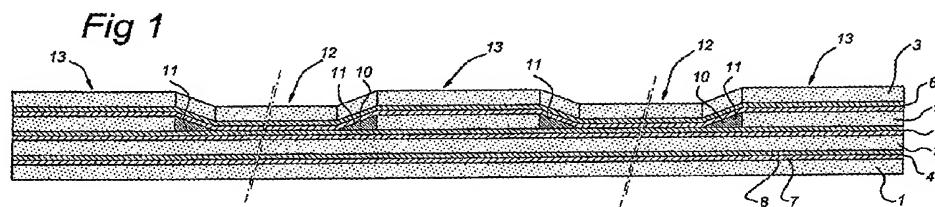
Anast teaches away from local adaptation of the laminate skin and from integrating local metal layers within the skin and Anast furthermore teaches away from Westre (figure 5 and column 13). See Anast-patent, column 6, lines 16-21 (Anast-application, paragraph [0030], lines 9-14). Anast (published in 2003) is prejudiced against using laminates having non-uniform thickness, and therefore Anast does not use laminates having non-uniform thickness, such as the one disclosed in Westre (published in 2000).

For this reason, Anast chooses another design route and separates the functions of the laminate and the doubler.

Anast needs an additional assembly step to bond the doubler to the skin.

As previously reviewed, the present invention pertains to a **laminate** that is illustrated, by way of example, in Figures 1 and 2 of the application, which are reproduced below.

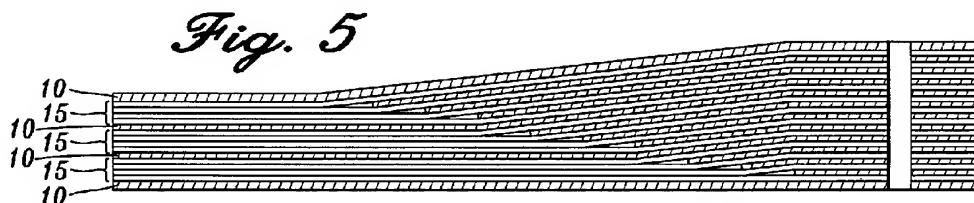
According to the present invention, a metal layer with peripherally closed openings is integrated within the laminate as an internal metal layer, in order to form a skin-type aviation panel (see the present application, original PCT-application, page 3, lines 16-19), that can be used advantageously without the need for an additional external doubler. The laminate according to the present invention has a more efficient construction, and can be assembled dispensing with the doubler and with the superfluous process step of bonding a doubler to the skin, resulting in a more efficient production and assembly process.



Figures 1 and 2 show metal layers (1-3, 9) and plastic bonding layers (4-6) situated between the metal layers (1-3, 9).

Two external metal layers (1, 3) extending substantially continuously, and there is at least one internal metal layer (2, 9). At least one of the internal metal layers (9) has at least one opening (10). Independent claim 18 of the present invention recites: "*and the metal layer provided with the peripherally closed opening (10) is situated between the plastic bonding layers (5, 6) and is bonded on either side to the plastic bonding layers (5, 6), and the plastic bonding layers (5, 6) continue without interruption at a position of the peripherally closed opening (10) and are bonded together at that point.*"

WESTRE et al. pertain to a titanium polymer hybrid. Figure 5 of WESTRE et al. is reproduced below.



The Office Action acknowledges that Westre fails to teach all the features of the present invention. The Official Action does not dispute the shortcomings of Westre, as identified in the last Amendment.

As discussed above, Anast fails to cure the defects of Westre.

Therefore, one of ordinary skill and creativity would fail to produce a claimed embodiment of the present invention

from the knowledge of Anast and Westre. A *prima facie* case of unpatentability has thus not been made.

Reconsideration and allowance of all the claims are therefore solicited.

Summary

This response is believed to be fully responsive and to put the case in condition for allowance. Entry of the amendment, and an early and favorable action on the merits, are earnestly requested. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Should there be any matters that need to be resolved in the present application; the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

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